WHAT IS CLAIMED IS:

1. A transmission data loss detection method in a data transmission system in which a sending unit deblocks parent data into pieces of unit data and sends each piece of unit data in sequence, and a receiving unit blocks each piece of received unit data to reconstruct the parent data, comprising the steps of:

calculating an ECC for a data sequence having an ID added corresponding to each piece of unit data in the sending unit;

sending send data having each piece of unit data with the added ECC;

returning each ID to the corresponding expected ID and resending from the unit data corresponding to the expected ID in case of receiving a resend request including an expected ID from the receiving unit;

receiving the send data as receive data and calculating the expected ECC for the data sequence having an expected ID added corresponding to each piece of unit data in the receive data in the receiving unit;

comparing the ECC in the receive data and the expected ECC;

issuing the resend request including the expected ID to the sending unit in the case where the ECC in the receive data and the expected ECC are not the same; and

blocking the corresponding unit data in the case where the ECC in the receive data and the expected ECC are the same.

2. A transmission data loss detection method as claimed in Claim 1,

wherein the ID is incremented cyclically in a predetermined range.

3. A transmission data loss detection system, comprising:

a sending unit for deblocking parent data into each piece of unit data and sending each piece of unit data in sequence; and

a receiving unit for blocking each piece of received unit data to reconstruct the parent data,

wherein the sending unit includes

a deblocking circuit for deblocking parent data into each piece of unit data,

a deblocking buffer for storing each piece of unit data deblocked by the deblocking circuit,

an ID-generating circuit for generating an ID corresponding to each piece of unit data,

an ECC-generating circuit for generating an ECC for the data sequence having the unit data and the ID,

a send-data buffer for storing the data sequence having the unit data and the ECC, and

a sending/receiving circuit for sending the data sequence stored in the send-data buffer to a transmission path as send data; and

the receiving unit includes

a sending/receiving circuit for receiving the send data from the transmission path as receive data,

a receive-data buffer for storing the receive data received by the sending/receiving circuit,

an ID-generating circuit for generating an expected ID corresponding to each piece of unit data in the receive data,

an ECC-calculating circuit for calculating an expected ECC for the data sequence having the unit data and the expected ID in the receive data,

a compare circuit for comparing the ECC and the expected ECC in the receive data,

a blocking buffer for storing the corresponding unit data in the case where the ECC and the expected ECC in the receive data are the same,

a resend-request circuit for issuing a resend request including the expected ID to the sending unit in the case where the ECC and the expected ECC in the receive data are not the same, and

a blocking circuit for blocking all the unit data to reconstruct the parent data when all the unit data constituting the parent data is stored in the blocking buffer.

4. A sending unit comprising:

a deblocking circuit for deblocking parent data into each piece of unit data;

a deblocking buffer for storing each piece of unit data deblocked by the deblocking circuit;

an ID-generating circuit for generating an ID corresponding to each piece of unit data;

an ECC-generating circuit for generating an ECC for the data sequence having the unit data and the corresponding ID;

a send-data buffer for storing the data sequence having the unit data and the ECC; and

a sending/receiving circuit for sending the data sequence stored in the send-data buffer to a transmission path as send data.

5. A receiving unit comprising:

a sending/receiving circuit for receiving send data from a transmission path as receive data;

a receive-data buffer for storing the receive data received by the sending/receiving circuit;

an ID-generating circuit for generating an expected ID corresponding to each piece of unit data in the receive data;

an ECC-calculating circuit for calculating an expected ECC for the data sequence having each piece of unit data and the expected ID in the receive data;

a compare circuit for comparing the ECC and the expected ECC in the receive data;

a blocking buffer for storing the corresponding unit data in the case where the ECC and the expected ECC in the receive data are the same;

a resend-request circuit for issuing a resend request including the expected ID to the sending unit in the case where the ECC and the expected ECC in the receive data are not the same; and

a blocking circuit for blocking all the unit data to reconstruct the parent data when all the unit data constituting the parent data is stored in the blocking buffer.

6. A transmission data loss detection system, comprising:

a sending unit for deblocking parent data into each piece of unit data and sending each piece of unit data in sequence; and

a receiving unit for blocking each piece of received unit data to reconstruct the parent data,

wherein the sending unit includes

a deblocking means for deblocking parent data into each piece of unit data,

a deblocking buffer means for storing each piece of unit data deblocked by the deblocking means,

an ID-generating means for generating an ID corresponding to each piece of unit data,

an ECC-generating means for generating an ECC for the data sequence having the unit data and the ID,

a send-data buffer means for storing the data sequence having the unit data and the ECC, and

a sending/receiving means for sending the data sequence stored in the send-data buffer to a transmission path as send data; and

the receiving unit includes

a sending/receiving means for receiving the send data from the transmission path as receive data,

a receive-data buffer means for storing the receive data received by the sending/receiving means,

an ID-generating means for generating an expected ID corresponding to each piece of unit data in the receive data,

an ECC-calculating means for calculating an expected ECC for the data sequence having the unit data and the expected ID in the receive data,

a compare means for comparing the ECC and the expected ECC in the receive data,

a blocking buffer means for storing the corresponding unit data in the case where the ECC and the expected ECC in the receive data are the same,

a resend-request means for issuing a resend request including the expected ID to the sending unit in the case where the ECC and the expected ECC in the receive data are not the same, and

a blocking means for blocking all the unit data to reconstruct the parent data when all the unit data constituting the parent data is stored in the blocking buffer.

7. A sending unit comprising:

deblocking means for deblocking parent data into each piece of unit data;

deblocking buffer means for storing each piece of unit data deblocked by the deblocking means;

ID-generating means for generating an ID corresponding to each piece of unit data;

ECC-generating means for generating an ECC for the data
sequence having the unit data and ID;

send-data buffer means for storing the data sequence
having the unit data and the ECC; and

sending/receiving means for sending the data sequence
stored in the send-data buffer to a transmission path as
send data.

8. A receiving unit comprising:

sending/receiving means for receiving the send data
from a transmission path as receive data;

receive-data buffer means for storing the receive data
received by the sending/receiving means;

ID-generating means for generating an expected ID
corresponding to each piece of unit data in the receive
data;

ECC-calculating means for calculating an expected ECC
for the data sequence having each piece of unit data and
the expected ID in the receive data;

compare means for comparing the ECC and the expected
ECC in the receive data;

blocking buffer means for storing the corresponding
unit data in the case where the ECC and the expected ECC in
the receive data are the same;

resend-request means for issuing a resend request
including the expected ID to the sending unit in the case
where the ECC and the expected ECC in the receive data are
not the same; and

blocking means for blocking all the unit data to
reconstruct the parent data when all the unit data

constituting the parent data is stored in the blocking buffer.

9. A computer program for driving a computer to execute steps in a transmission data loss detection system, the steps comprising:

steps to be executed on a sending computer, including

deblocking parent data into each piece of unit data,

storing each piece of deblocked unit data by the deblocking means,

generating an ID for each piece of unit data,

generating an ECC for the data sequence having the unit data and the ID,

storing the data sequence having the unit data and the ECC, and

sending the data sequence stored in the send-data buffer means to a transmission path as send data; and

steps to be executed on a receiving computer, including

receiving the send data from a transmission path as receive data,

storing the receive data received by the sending/receiving means,

generating an expected ID corresponding to each piece of unit data in the receive data,

calculating an expected ECC for the data sequence having each piece of unit data and the expected ID in the receive data,

comparing the ECC and the expected ECC in the receive data,

storing the unit data in the case where the ECC and the expected ECC in the receive data are the same,

issuing a resend request including the expected ID to the sending unit in the case where the ECC and the expected ECC in the receive data are not the same, and

blocking all the unit data to reconstruct the parent data when all the unit data constituting the parent data is stored in blocking buffer means.

10. A computer program for driving a sending computer to execute steps in a transmission data loss detection system, the steps comprising:

deblocking parent data into each piece of unit data;

storing each deblocked unit data;

generating an ID corresponding to each piece of unit data;

generating an ECC for the data sequence having the unit data and the ID;

send-data buffer means for storing the data sequence having the unit data and the ECC; and

sending the data sequence stored in the send-data buffer means to a transmission path as send data.

11. A computer program for driving a receiving computer to execute steps in a transmission data loss detection system, the steps comprising:

receiving send data from a transmission path as receive data;

storing the receive data received by the sending/receiving means;

generating an expected ID for each piece of unit data in the receive data;

calculating an expected ECC for the data sequence having each piece of unit data and the expected ID in the receive data;

comparing the ECC and the expected ECC in the receive data;

storing the corresponding unit data in the case where the ECC and the expected ECC in the receive data are the same;

issuing a resend request including the expected ID to the sending unit in the case where the ECC and the expected ECC in the receive data are not the same; and

blocking all the unit data to reconstruct the parent data when all the unit data constituting the parent data is stored in blocking buffer means.